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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/596,822

07/23/2008

Shinji Furusho

YOSHID0025

1912

24203 7590 05/06/2011

GRIFFIN & SZIPL, PC

SUITE PH-1

2300 NINTH STREET, SOUTH

ARLINGTON, VA 22204

EXAMINER

ALMANI, MOHSEN

ART UNIT

PAPER NUMBER

2155

MAIL DATE

DELIVERY MODE

05/06/2011

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/596,822	<b>Applicant(s)</b> FURUSHO, SHINJI	
	<b>Examiner</b> MOHSEN ALMANI	<b>Art Unit</b> 2155	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 23 July 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>7/23/2008</u>   | 6) <input type="checkbox"/> Other: _____                          |

***DETAILED ACTION***

***Remarks***

1. Claims 1-19 are presently pending in the instant application, of which, claims 1,2, 3, 4, 5, 7, 8, 9, 10, 11, 13, 14,15,16 and 17 are presented as in independent form.

***Claim Rejections - 35 USC § 101***

2. 35 U.S.C. 101 reads as follows:  
Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.
3. Claim 19 recites a “computer readable recording medium,” which covers transitory forms of signal transmission when interpreted using the broadest reasonable interpretation. Transitory forms of signal transmission do not belong to one of the statutory categories of invention. See MPEP 2106. Therefore, the claim is directed to non-statutory subject matter. It is suggested that claim 19 be amended to recite a “non-transitory computer readable storage medium.”

***Claim Rejections – 35 USC § 102***

4. The following is a quotation of 35 U.S.C. 102 that forms the basis for all the rejections under this section made in this Office Action:

A person shall be entitled to a patent unless—

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(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 1, 7, 13 and 19 is rejected under 35 U.S.C. 102(b) as being anticipated over Kahle et al (U.S. Patent No.: 4,870,568 hereinafter referred to as Kahle).

As to **claim 1**, Kahle teaches an information processing method of transmitting/receiving and processing data among a plurality of processing modules in an information processing system in which the plurality of processing modules, each having a memory for storing a list composed of values, is logically connected to one another in a loop (see Kahle, column 4, lines 46-49 and 60-63), the method comprising the steps of:

allowing each of the processing modules to transmit a first list composed of values stored in the memory of each of the processing modules to the other processing modules in the information processing system (see Kahle, column 6, lines 53-57, where "a first list" is read on "**one or more tables**");

allowing each of the processing modules to receive at least one second list composed of values transmitted to each of the processing modules, from the other processing modules (see Kahle, column 7, lines 23-25, where "second list" is read on "**this query**");

allowing each of the processing modules to compare values of the second list with values of the first list (see Kahle, column 7, lines 32-25, where "compare" is read on "**search**"); and

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allowing each of the processing modules to increase a counter corresponding to a value of the first list by one when a value of the second list is identical to the value of the first list (see Kahle, column 7, lines 32-37, where "counter" is read on "**flag**".)

As to **claims 7 and 13**, these independent claims recite similar limitations, except in the context of a system and program, respectively. Therefore, they are rejected under the same rational as stated in the claim 1.

**Claim 19** depends from claim 13 and it is in the context of a computer readable medium; therefore it is rejected under the same rational as stated in the claim 13.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 2-5, 8-11 and 14-17 are rejected under 35 U.S.C.103(a) as being unpatentable over Kahle, in view of Baum et al (US Patent No.: 5,210,870 hereafter referred to as Baum).

As to **claim 2** Kahle teaches an information processing method of transmitting/receiving and processing data among a plurality of processing modules in an information processing system in which the plurality of processing modules, each

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having a memory for storing a list composed of values, is logically connected to one another in a loop (see Kahle, column 4, lines 46-49 and 60-63).

Kahle doesn't teach allowing each of the processing modules to transmit a first composed of pairs of value and compare the list with a second list of pairs of value and increase a counter by the number of the values in the second list when the value of the second list is identical to the value of the first list.

However, Baum teaches the method of claim 2 comprising the steps of: allowing each of the processing modules to transmit a first list composed of pairs of a value and a number of value stored in the memory of each of the processing modules, to the other processing modules in the information processing system (see Baum, column 22, lines 31-34, where "a first list" is read on either of four pairs of lists "E, H D,C A,F B,G" and "a number of value stored in the memory" is implied from "list") ;

allowing each of the processing modules to receive at least one second list composed of the pairs of value and the number of value transmitted to each of the processing modules, from the other processing modules (see Baum, column 22, lines 31-34, where "a first list" is read on either of four pairs of lists "E,H D,C A,F B,G" and "a number of value stored in the memory" is implied from "list"); and

allowing each of the processing modules to compare values of the second list with values of the first list (see Baum, figure 8, where comparing values is illustrated by a binary merge/sort);

and allowing each of the processing modules to increase a counter corresponding to a value of the first list by the number of the values corresponding to a value of the

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second list, when the value of the second list is identical to the value of the first (see Baum, column 28, lines 34-40, where “**DIFFERENCE OPERATION**” compares two identical values and increases i and j counters.)

Therefore, it would have been obvious to a person with ordinary skill in the art at the time of the invention was made to have modified Kahle with the teaching of Baum to use a list composed of pairs of value instead of using a list composed of values because doing so requires the same efficient execution of the functions required for data processing: searching, hashing, comparing and incrementing counters in a parallel processing system.

As to **claim 3**, Kahle as modified teaches an information processing method of transmitting/receiving and processing data among a plurality of processing modules in an information processing system in which the plurality of processing modules, each having a memory for storing a list composed of values, is logically connected to one another in a loop (see Kahle, column 4, lines 46-49 and 60-63), the method comprising the steps of:

allowing each of the processing modules to transmit a first list composed of values stored in the memory of each of the processing modules to the other processing modules in the information processing system (see Kahle, column 6, lines 53-57, where "a first list" is read on "**one or more tables**");

allowing each of the processing modules to receive at least one second list composed of values transmitted to each of the processing modules, from the other processing

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modules (see Kahle, column 7, lines 23-25, where "second list" is read on "**this query**");

allowing each of the processing modules to compare values of the second list with values of the first list (see Kahle, column 7, lines 32-25, where "compare" is read on "**search**").

allowing each of the processing modules to increase the count of a value of the first list that ranks immediately next to a value of the second list, by one, when the value of the first list ranks lower than the value of the second list (see Baum, column 28, lines 25-30, counter i is increased by one.)

As to **claim 4**, Kahle as modified teaches an information processing method of transmitting/receiving and processing data among a plurality of processing modules in an information processing system in which the plurality of processing modules, each having a memory for storing a list composed of values, is logically connected to one another in a loop, (see Kahle, column 4, lines 46-49 and 60-63), the method comprising the steps of:

allowing each of the processing modules to transmit a first list composed of pairs of a value and a number of value stored in the memory of each of the processing modules, to the other processing modules in the information processing system (see Baum, column 22, lines 31-34, where "a first list" is read on either of four pairs of lists "**E, H D,C A,F B,G**" and "a number of value stored in the memory" is implied from "**list**");

allowing each of the processing modules to receive at least one second list composed of the pairs of value and the number of value transmitted to each of the processing



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modules, from the other processing modules (see Baum, column 22, lines 31-34, where "a first list" is read on either of four pairs of lists "**E,H D,C A,F B,G**" and "a number of value stored in the memory" is implied from "**list**"); and allowing each of the processing modules to compare values of the second list with values of the first list (see Baum, figure 8, where comparing values is illustrated by a binary merge/sort); and allowing each of the processing modules to increase a counter corresponding to a value of the first list ranked immediately next to a value in the second list by the number of the values corresponding to the value of the second list, when the value of the first list ranks lower than the value of the second list. (see Baum, column 28, lines 34-40, where  $i$  is increased when  $L1(i)$  is less than  $L2(j)$ ).

As to **claim 5**, Kahle as modified teaches an information processing method of transmitting/receiving and processing data among a plurality of processing modules in an information processing system in which the plurality of processing modules, each having a memory for storing a list composed of values, is logically connected to one another in a loop (see Kahle, column 4, lines 46-49 and 60-63), the method comprising the steps of:

allowing each of the processing modules to transmit a first list composed of values stored in the memory of each of the processing modules to the other processing modules in the information processing system (see Kahle, column 6, lines 53-57, where "a first list" is read on "**one or more tables**");

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allowing each of the processing modules to receive at least one second list composed of values transmitted to each of the processing modules, from the other processing modules (see Kahle, column 7, lines 23-25, where "second list" is read on "**this query**");

allowing each of the processing modules to cancel a value of the second list when the value of the second list exists in the first list, and, when identical values exist in two or more second lists, allowing each of the processing modules to cancel the value of one or more second lists that, appear later among the two or more second lists (see Kahle, column 7, lines 32 -37, where "the flag is a one" indicates that that the value is found and canceled from the second list); and

allowing each of the processing modules to increase a counter corresponding to a value of the first list that, ranks immediately next to the value of the second list, by one, when the value of the first list ranks lower than the value of the second list. (see Baum, column 28, lines 25-30, counter i is increased by one.)

As to **claims 8** and **14**, these independent claims recite similar limitations, except in the context of a system and a program, respectively. Therefore, they are rejected under the same rationale as stated in the claim 2.

As to **claims 9** and **15**, these independent claims recite similar limitations, except in the context of a system and a program, respectively. Therefore, they are rejected under the same rationale as stated in the claim 3.

As to **claims 10 and 16**, these independent claims recite similar limitations, except in the context of a system and a program, respectively. Therefore, they are rejected under the same rationale as stated in the claim 4.

As to **claims 11 and 17**, these independent claims recite similar limitations, except in the context of a system and a program, respectively. Therefore, they are rejected under the same rationale as stated in the claim 5.

8. **Claims 6, 12 and 18** are rejected under 35 U.S.C. 103(a) as being unpatentable over Kahle in view of Baum as applied to claim 5, 11 and 17 above, and further in view of Mock et al (US Patent No.: 6,820,217 hereafter referred to as Mock).

As to **claim 6**, Kahle as modified does not teach claim 6 limitation, however Mock teaches the information processing method according to claim 1, wherein each of the processing modules stores table-format data represented by an array of records including field values contained in an information field in the memory in a form of a value list in which the field values are stored in order of field value numbers corresponding to the field values and an array of pointers in which information for specifying the field value numbers is stored in order of records, and wherein said list composed of the values is said value list that constructs the table-format data. (see Mock, column 2, lines 65-67 and column 3, lines 1-4).

Therefore, it would have been obvious to a person with ordinary skill in the art at the time of the invention was made to have modified Kahle with the teaching of Mock because the method that Kahle discloses stores table-format data in the processing

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modules (see Kahle, column 6, lines 15-17). The method that Mock teaches also stores data in table formats (see Mock, column 8, lines 2-3). Combination of Kahle and Mock methods would allow processes of data, using an ordered list of pointers to database records, where the pointers are ordered according to a field value.

**Claims 12 and 18** have similar limitation as to claim 6; therefore, they are rejected under the same subject matter.

### **Conclusion**

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to MOHSEN ALMANI whose telephone number is (571)270-7722. The examiner can normally be reached on M-F, 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Perveen Rehana can be reached on 571-272-3676. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

10. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

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USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MA/

May 4, 2011

/Rehana Perveen/

Supervisory Patent Examiner, Art Unit 2155